THE UNIVERSITY OF TEXAS AT AUSTIN Date: 09/17/2014

RECOMMENDATION FOR CHANGE IN ACADEMIC RANK/STATUS

Name: Georgios-Alex (Alexandros G.) Dimakis EID: gd6366 Present Rank: Assistant Professor

Years of Academic Service ***(Include AY 2014-15 in each count)***:

At UT Austin since: 01/16/2013 (month/day/year) In Present Rank: 2.50 (# of years) In Probationary Status (**TT only**): 2 (# of full years or N/A)

Primary Department: Electrical and Computer Engineering College/School: Cockrell School of Engineering

Joint Department: - College/School: -

Other Department(s): -

Recommendation actions[1]:

By Budget Council/Executive Committee: Promote

Vote[2] for promotion 31; Against 0; Abstain 3; Absent 1; Ineligible to vote 0

By Department Chair: Promote

Vote for promotion _____; Against _____; Abstain _____; Absent _____

By College/School Advisory Committee: Promote

Vote for promotion 7; Against 0; Abstain 0; Absent 0

By Dean: Promote

Administrative Action: Promote to Associate Professor

Date Action Effective: September 1, 2015
(To be submitted to the Board of Regents as part of the annual budget.)

By: _____ Date: December 17, 2014
For the President

[1]See "Chart of Recommended Actions" for eligible recommended actions applicable to specific conditions and administrative levels.
[2]Record all votes for and against promotion, abstentions by eligible voting members, and the number of absent eligible voting members. The number of budget council/executive committee members ineligible to vote due to rank should also be recorded. Enter zero where it would otherwise be blank.

EVPP/10.14

EXHIBIT
P's 164

THE UNIVERSITY OF TEXAS AT AUSTIN
COCKRELL SCHOOL OF ENGINEERING

Office of the Dean • 301 E. Dean Keeton Street, C 2100 • Austin, Texas 78712-2100

Dean's Assessment
Alex Dimakis
Department of Electrical and Computer Engineering

Alex Dimakis completed a Diploma in Electrical and Computer Engineering from the National Technical University of Athens in 2003. He subsequently received an MS (2005) and a PhD (2008) in Electrical and Computer Engineering from the University of California, Berkeley. He was a post-doctoral scholar at the California Institute of Technology for one year. Dr. Dimakis was then appointed as an assistant professor at the University of Southern California, where he served on the faculty for three and a half years (May 2009 to December 2012). He joined the Department of Electrical and Computer Engineering at the University of Texas at Austin as an assistant professor in January 2013. He has been at his current rank at UT Austin for one and a half years. This case is considered to be early if only the time at UT is considered. However, if this case is successful and if his time at USC is considered, Dr. Dimakis will have served as an assistant professor for a total of six years.

A total of ten external review letters were received, of which five were from reviewers selected by the budget council and five were recommended by the candidate. The letter writers are all experts in the field of coding theory and communications and were chosen from domestic peer institutions (Stanford, UC Berkeley, UC San Diego, Duke, and Maryland), industry (Bell Labs), and international universities (Indian Institute of Science, Toronto, Chinese University of Hong Kong, École Polytechnique Lausanne). One referee is a member of the National Academy of Engineering.

Teaching
During his time at UT Austin, Dr. Dimakis taught one undergraduate course (EE 313, *Linear Systems and Signals*, twice) and one graduate course (EE 381V, *Advanced Coding Theory*, once). He also taught four graduate level courses at the University of Southern California. These courses were on coding theory, advanced coding and information theory, probability, and message passing theory.

Based on student comments and peer evaluations, it can be concluded that Dr. Dimakis is an excellent teacher. His undergraduate instructor ratings range from 4.0 to 4.4. The 5-year average instructor rating for assistant professors in the Cockrell School of Engineering is 4.1. Dr. Dimakis' teaching performance is therefore better than the CSE average scores. His average course rating for EE 313 is 3.90. His instructor rating in the graduate course is 4.6, which exceeds the average for assistant professors in the Cockrell School (4.08). His average course rating for EE 381V is 4.47. Dr. Dimakis' instructor ratings at USC ranged between 4.4 and 4.8 on a 5-point scale.

The peer assessment of Dr. Dimakis' teaching emphasizes his energetic teaching style and his ease of communication and is consistent with positive student comments the candidate has received in his courses.

Research
Dr. Dimakis' research is in the areas of information theory, coding theory, machine learning and networking. He has made important contributions to the theory and implementation of distributed storage codes especially to solve problems encountered when erasure codes are used to protect information stored in a distributed manner over multiple machines in a data center. Dr. Dimakis has continued the trend-setting research in the area of distributed storage that he started at USC and during his time at UT Austin has made forays into other areas such as the analysis of gossip algorithms and exploring the connection between linear programming (LP) based decoding of binary codes and compressed sensing.

Dr. Dimakis has published ten papers at UT Austin, and a total of 25 papers in-rank when his time at USC is included. Over his entire career, he has published 29 journal publications. Most of his publications are in various *IEEE Transactions* which are acknowledged to be among the most prestigious in his field. He has also written 44 refereed conference papers while in rank, of which twelve were presented during the time Dr. Dimakis has been at UT Austin. Over his career, he has published 60 papers in refereed conference proceedings. A number of his publications are with graduate students both here at UT Austin and at USC.

Some of his research highlights include: (1) Dr. Dimakis' publications have been cited 3632 times with an h-index of 30 (Google scholar) since 2009. The budget council presented a comparison of Dr. Dimakis' research productivity to other recently promoted faculty members, which indicates that Dr. Dimakis is more productive and better cited than any of the members of the comparison group. (2) Dr. Dimakis has been invited to give several talks at universities and symposia. He was the keynote speaker at the IEEE International Symposium on Network Coding. He was invited to make a presentation at the Network Information Theory meeting at the Banff International Research Station.

Dr. Dimakis has received funding from eleven research grants over the course of his career and is the PI on eight of those grants. He has been awarded seven research grants during his time at UT Austin and is the PI on five of those. He has raised over $3.4 million in research funding over the course of his career with his share at $1.8 million. His share of research funding while at UT Austin is approximately $1.1 million. Prominent research grants include the NSF CAREER award that he received when he was at USC, a Google Research Award that he received in 2012, and a prestigious Young Investigator Award from the Army Research Office (ARO). He has three other awards from NSF. Dr. Dimakis' research is of direct relevance to organizations that are engaged in big data analytics using clusters and cloud storage systems and this is likely to sustain his research program for a long time. In the words of Raymond Yeung (Chinese Univ. of Hong Kong), "*the technology developed by Dr. Dimakis and his students/co-workers has the potential to become the core technology for next generation cloud storage.*"

Dr. Dimakis received exceptionally strong reviews from all the letter writers. Some select comments are presented below:

> Dr. Venkatachalam Anantharam (UC Berkeley) writes, "his research in coding for distributed systems has set a veritable hailstorm of research: there are already conferences devoted purely to distributed data storage, and there are many groups around the world working on this topic."
>
> Dr. Alexander Barg (Maryland) writes, "The works of Dr. Dimakis in this area have had a significant impact on the development of coding theory: it is fair to say that to some extent they have shaped subsequent research devoted to coding for data centers."
>
> Dr. Robert Calderbank (Duke, NAE), "If I were to ask a two part question - What was the idea and what difference did it make? – then I would find it difficult to rank anyone ahead of Alex."
>
> Dr. Rüdiger Urbanke (École Polytechnique Fédérale de Lausanne) writes, "Together with some of his colleagues he has created a whole new branch of coding theory that takes into account the unique requirements of this field. This has led to the definition of a research area that is at the same time very beautiful and eminently useful. This does not happen every day!"

Advising and Student Mentoring

Dr. Dimakis graduated one PhD student at UT and one co-supervised PhD student at USC. He also graduated one MS student at UT and three at USC. He is currently the sole supervisor of two PhD students and co-supervisor of two others (two additional PhD students joined his group in September 2014). While in rank, he has also formally supervised a senior design team comprising five ECE undergraduate students. He also co-supervised an

undergraduate student researcher from Rice University. Dr. Dimakis currently supervises two post-doctoral research fellows.

University Service

Dr. Dimakis has served as a member of the ECE Semester Course Evaluation Committee and the CommNetS Pre-Qual Screening Committee for 2014. He has also served on the CommNetS Graduate Admissions Committee for 2013 and 2014. The Budget Council statement observes that service on the Graduate Admissions Committee is a particularly time-consuming commitment. In 2013, he served as program chair of the Winedale Workshop, a one-day event co-organized by UT Austin, Rice University and Texas A&M to facilitate interaction between Texas researchers in the area of signals, systems and communications.

Professional Service

Dr. Dimakis is an associate editor of the IEEE *Signal Processing Letters*. He has served on over 15 technical program committees for key conferences in his area (such as ISIT). He has also chaired an IEEE workshop on Emerging Data Storage Technologies in 2012, participated in two workshops sponsored by NSF. Recently, Dr. Dimakis was appointed to the eight member committee that is investigating future directions in information theory. He has served on several funding/review panels for NSF and other international academic organizations. He has reviewed papers for virtually all the top IEEE journals pertinent to his area.

Other Evidence of Merit or Recognition

Dr. Dimakis received the Joint Paper Award in 2012 from the IEEE Communications Society and the IEEE Information Theory Society. This is a very prestigious award, with only one paper per year recognized across a wide diversity of journals in the two IEEE societies. He delivered the keynote address at the 2010 IEEE International Symposium on Network Coding. He received a NSF CAREER Award in 2012 and an Army Research Office Young Investigator Award in 2014. He was invited as a school lecturer at the European School of Information Theory.

Overall Assessment

Dr. Dimakis is clearly an outstanding researcher who has continued down the path he set at USC and has established a strong research program here at UT. He is engaged in trend-setting research in the area of coding for distributed systems, gossip algorithms, LP decoding and machine learning. He has excelled at teaching and has been complimented by the students for being patient, energetic and an excellent communicator. He has received several prestigious awards that recognize his research credentials. He has performed adequate service to the university and department and has maintained an active role in his profession by serving as the associate editor of the *IEEE Signal Processing Letters*.

I believe that Dr. Dimakis meets or exceeds all expectations for early promotion to associate professor, and support this case without reservation.

Sharon L. Wood, Dean
8 November 2014

Candidate's Statement on Research

Table 1. Research Summary

Metric	Value
Peer-Reviewed Journal Publications in Rank	25
Peer Reviewed Conference Proceedings Publications in Rank	44
Total Citations of all Publications (Google Scholar)	3600
h-index (Google Scholar)	30
Research Funding Raised ($) (Candidate Share)	$3,444,279 ($1,792,500)
Total Grants/Contracts Received	11
PI on Grants/Contracts Received	8

Table 2. Grants and Contracts Awarded while in Rank

Co-Investigators	Title	Agency	Grant Total	Grant Period
Krishnamachari (USC) (Dimakis Co-PI)	Efficient Storage in Vehicular Networks, (Research contract with USC)	General Motors	$ 98,000 ($ 39,000)	09/2010-9/2011
(none) (Dimakis PI)	CAREER: Network Coding Theory for Distributed Storage	National Science Foundation (NSF)	$ 470,000 ($ 470,000)	2/2011-1/2016
Caire, Molisch (USC) (Dimakis Co-PI)	D2D Wireless Video: Breaking the Cellular Capacity Bottleneck for Efficient Video Delivery	Intel and Cisco	$ 300,000 ($ 100,000)	1/2011-1/2014
Krishnamachari (USC) (Dimakis Co-PI)	Cloud Content Management in Vehicular Networks, (Research contract with USC)	General Motors	$ 100,000 ($ 50,000)	10/2011-9/2012
Ramchandran (UC Berkeley) (Dimakis PI)	Workshop Proposal: Communication Theory and Signal Processing in the Cloud Era	National Science Foundation (NSF)	$ 39,279 ($ 19,500)	06/2012
(none) (Dimakis PI)	Coding for Big Data	Google Faculty Research Award	$ 60,000 ($ 60,000)	7/2012
Pfister (Texas A&M, PI) (Dimakis, UT, PI)	CIF: Small: Collaborative Research: Design and Analysis of Novel Compressed Sensing Algorithms via Connections with Coding Theory	National Science Foundation (NSF)	$ 470,000 ($ 217,000)	9/2012-8/2015

joint with Continuum Analytics (Dimakis PI)	Data-Parallel Analytics on Graphics Processing Units (GPUs)	DARPA STTR Grant	$ 100,000 ($ 30,000)	06/2014 - 11/2014
Viswanath (UIUC, Lead PI), Ramchandran (UC Berkeley, PI) Muriel Medard (MIT, PI) Hajek (UIUC, Co-PI) Srikant (UIUC, Co-PI) (Dimakis, UT, PI)	CIF: Medium: Collaborative Research: Content Delivery over Heterogeneous Networks: Fundamental Limits and Distributed Algorithms	National Science Foundation (NSF)	$ 1,200,000 ($ 200,000)	8/2014 - 8/2017
(none) (Dimakis PI)	YIP: Learning Network Properties through Low Rank Approximations	Army Research Office (ARO)	$ 150,000 ($ 150,000)	09/2014 - 08/2017
(none) (Dimakis PI)	CIF: Small: Sparsity in Quadratic Optimization through Low-Rank Approximations	National Science Foundation (NSF)	$ 425,000 ($ 425,000)	09/01/2014 - 08/31/2017
(none)	WNCG Affiliates Program + Small research gifts	Several industrial affiliates	$ 32,000 ($ 32,000)	2009-2013
		Total	$3,444,279	
		My Share	($1,792,500)	

Division of Labor- Research Projects

Alex Dimakis
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This document identifies the division of labor for research projects/grants while in rank. Only collaborative research projects are listed.

Co-Investigators	Division of Labor	Title	Agency	Grant Total	Grant Share	Grant Period
Krishnamachari (PI), Dimakis (Co-PI)	BK 50% effort AGD 50% effort	Efficient Storage in Vehicular Networks, (Research contract with USC)	General Motors	$98,000	$39,000	09/2010-9/2011
Caire (PI), Molisch (Co-PI), Dimakis (Co-PI)	GC 34% effort AFM 33% effort AGD 33% effort	D2D Wireless Video: Breaking the Cellular Capacity Bottleneck for Efficient Video Delivery	Intel and Cisco	$300,000	$100,000	1/2011-1/2014
Krishnamachari (PI), Dimakis (Co-PI)	BK 50% effort AGD 50% effort	Cloud Content Management in Vehicular Networks, (Research contract with USC)	General Motors	$100,000	$50,000	10/2011-9/2012
Ramchandran (PI), Dimakis (PI)	KR 50% effort AGD 50% effort	Workshop Proposal: Communication Theory and Signal Processing in the Cloud Era	National Science Foundation (NSF)	$39,279	$19,500	6/2012
Pfister (PI), Dimakis (PI)	HP 50% effort AGD 50% effort	CIF: Small: Collaborative Research: Design and Analysis of Novel Compressed Sensing Algorithms via Connections with Coding Theory	National Science Foundation (NSF)	$470,000	$217,000	9/2012-8/2015
Viswanath (PI), Hajek (Co-PI), Srikant (Co-PI), Ramchandran (PI), Medard (PI), Dimakis (PI)	AGD 17% effort, rest of team 83% effort	CIF: Medium: Collaborative Research: Content Delivery over Heterogeneous Networks: Fundamental Limits and Distributed Algorithms	National Science Foundation (NSF)	$1,200,000	$200,000	8/2014-8/2017